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Duplication of vas deferens—A rare anomaly with review of literature

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ABSTRACT

INTRODUCTION: Isolated duplication of vas deferens is a rare anomaly with only eleven cases reported in medical literature. Unawareness regarding this rare anomaly can lead to inadvertent injury to the vas during inguinal hernia surgery or failure of vasectomy procedure.
PRESENTATION OF CASE: A 27-year-old gentleman was diagnosed with isolated duplication of vas during left sided open inguinal hernia surgery. He had no other genito-urinary anomaly. Patient had an uneventful recovery from surgery.
CONCLUSION: It is a rare anomaly and unawareness regarding this condition can lead to catastrophic consequences during inguinal hernia and vasectomy surgeries.

1. Case report

1.1. Introduction

Isolated duplication of vas deferens (VD) is a rare entity with only few cases reported in the world literature.[1–8] Duplication of vas is usually associated with other renal anomalies like unilateral renal agenesis.[1,2,7] Open hernia surgery is one of the commonest surgical procedures performed the world over and injury to the vas deferens is a known complication. This case emphasizes the importance of identifying the vas deferens during open inguinal hernia surgery to prevent inadvertent damage to the VD. The presence of such an anomaly in a patient can also lead to inadvertent failure of a vasectomy procedure.

1.2. Presentation of case

A 27-year-old gentleman was admitted to our hospital for a Lichtenstien tension free mesh hernioplasty. The patient had a left indirect, complete inguinal hernia on clinical examination. He had no history of any urinary complaints. An open hernioplasty was carried out under spinal anaesthesia and during the separation of the hernia sac from the left cord structures two white, cord like structures were felt, which were subsequently dissected to establish their origin (Fig. 1). Both cords were found to be arising from the left testicle and going into the abdomen and were identified as double vas deferens on the left side (Fig. 2). Both ducts were preserved during the hernioplasty. Both the testis and epididymis were normal. Patient was discharged the next day without any complications.

The post-operative ultrasonography did not reveal any abnormality involving the structure of the kidney or the upper urinary tracts.

1.3. Discussion

Isolated duplication of vas deferens is a rare congenital anomaly with the estimated incidence of vas anomalies being less than 0.05% in the general population.[1–6]

The vas deferens develops from the proximal vas precursor (PVP). It occupies an intermediate position between the upper and common mesonephric ducts and differentiates in to the vas deferens and seminal vesicles.[3,4] Duplication of the PVP gives rise to partial duplication of the vas deferens at the level of the inguinal canal.[4] It can be associated with unilateral renal agenesis or other congenital renal anomalies.

As unilateral, isolated, duplication of vas deferens is rare, the vas may be inadvertently injured during hernia surgery.[1,9] Identification of the vas deferens during exploration of the cord for a hernia sac therefore is mandatory in order to prevent its iatrogenic injury.

A review of the medical literature revealed total of 11 cases of duplication of vas deferens including our case.[1,5–12] All cases were diagnosed incidentally. Four of these cases, including one which we have reported earlier,[3] were diagnosed during inguinal hernia surgery. Two cases each were diagnosed during vasectomy and varicocele procedures. One case each was diagnosed during surgery for undescended testis, carcinoma of prostate and ectopic ureter.[1–3,5–12]

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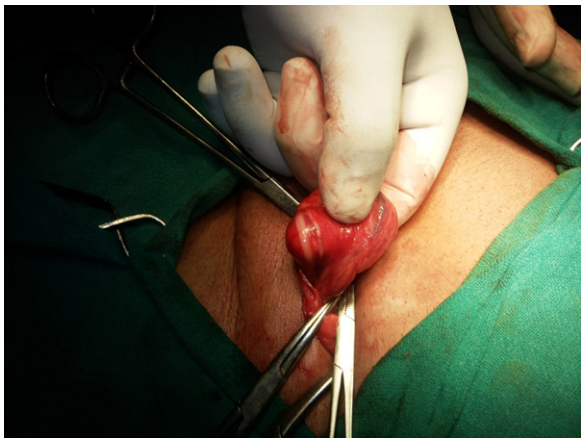

Fig. 1. Double vas identified during left sided hernia surgery.

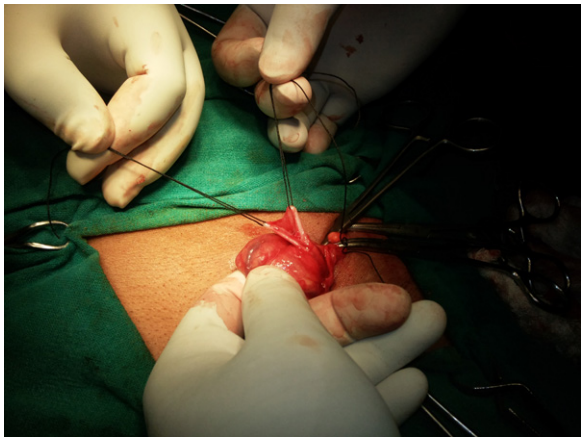

Fig. 2. Double vas dissected out and displayed on slings during surgery.

1.4. Conclusion

This case highlights the importance of routine identification of the vas during inguinal hernia surgery, to prevent its inadvertent injury. Unidentified duplication of vas during vasectomy can lead to a failure of the procedure.

Conflict of interest statement

None.

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Ethical approval

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author's contributions

RK: Corresponding author and was the assistant during surgery. He also prepared the manuscript. SJ: Main operating surgeon and helped in preparation of the manuscript. NV, PD, AS: Assisted during the surgery and helped in manuscript preparation. SP, SY: Helped in preparation of the manuscript.

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